

Encapsulated porcine islets

LCT
living cell technologies



ASX: LCT - OTCQX: LVCLY

Diabetes – Neurodegenerative Diseases – Cell Encapsulation

World Leading Cell Implant Company

Australia - July 2010

Safe Harbor Statement

This document contains certain forward-looking statements, relating to LCT's business, which can be identified by the use of forward-looking terminology such as "promising", "plans", "anticipated", "will", "project", "believe", "forecast", "expected", "estimated", "targeting", "aiming", "set to", "potential", "seeking to", "goal", "could provide", "intends", "is being developed", "could be", "on track", or similar expressions, or by express or implied discussions regarding potential filings or marketing approvals, or potential future sales of product candidates. Such forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause actual results to be materially different from any future results, performance or achievements expressed or implied by such statements. There can be no assurance that any existing or future regulatory filings will satisfy the FDA's and other health authorities' requirements regarding any one or more product candidates nor can there be any assurance that such product candidates will be approved by any health authorities for sale in any market or that they will reach any particular level of sales. In particular, management's expectations regarding the approval and commercialization of the product candidates could be affected by, among other things, unexpected clinical trial results, including additional analysis of existing clinical data, and new clinical data; unexpected regulatory actions or delays, or government regulation generally; our ability to obtain or maintain patent or other proprietary intellectual property protection; competition in general; government, industry, and general public pricing pressures; and additional factors that involve significant risks and uncertainties about our products, product candidates, financial results and business prospects. Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those described herein as anticipated, believed, estimated or expected. LCT is providing this information as of the date of this presentation and does not assume any obligation to update any forward-looking statements contained in this document as a result of new information, future events or developments or otherwise.

LCT - World Leader in Cell Implants

Products and Programs

- “World first” lead product DIABECCELL® in Phase IIb clinical trials to treat Type 1 diabetes
- Pre-clinical programs in neurodegenerative diseases – NTCELL for Parkinson’s, Huntington’s, stroke, hearing loss

Platform

- Breakthrough encapsulation delivery eliminates need for immunosuppression
- Porcine cell implants
- Strong IP position

Process & Production

- Owns unique biocertified pathogen free pig herds
- World’s only internationally accredited laboratory to screen for porcine pathogens
- GMP facility for cell processing and encapsulation

Fast Growth Business Model

- Commercialization of high value lead product within 3 years
- Global reach through partnering



International Capital Structure and Trading

LCT History

- Formed in 2003
- Acquired operations, IP and 20 years of R&D
- Listed ASX Sept. 2004
- Listed OTCQX June 2008
- Total funds raised to date:\$56 M

2010 Grant Highlights

JDRF USA US\$0.5M

N.Z. Government NZ\$4.0M

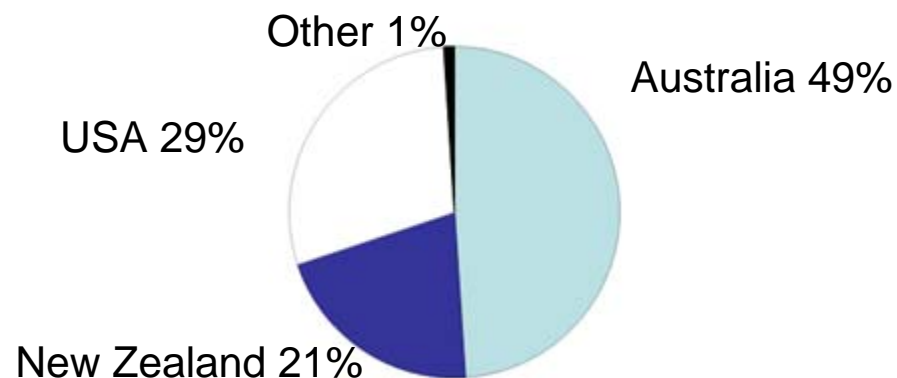
Market Cap as of 16 July, 2010 A\$ 58 M

Outstanding Shares 283.8 M
ASX: 84%, OTCQX (ADR):16%

Trading Volume Q1 2010
ASX: 56%, OTCQX (ADR): 44%

Outstanding Options:7.8%

Shares Held



LCT Trade Data Summary (15 June 2010)

Market Capitalization: AUD \$71 million

Total Ordinary Shares: 273,999,851

Current share price:

52-week range

Daily range

6-month price history

20-day SMA

As of 15 June 2010

ASX: LCT

.26

.145 - .38

.145 - .39



OTCQX (ADR): LVCLY

2.05

1.00 - 3.88

2.13 - 2.27



Type 1 Diabetes:

Significant Human Burden with Limited Options

 **Destruction of insulin-producing pancreatic islet beta cells by immune system; lifelong need for replacement**

Human Burden of Type 1 Diabetes

- Requires multiple daily injections to stay alive and avoid coma
- Long term complications include kidney failure, blindness, limb amputation, heart attack, stroke
- Unstable diabetes with major swings in blood sugar levels, involves seizures and coma
- Shortened life expectancy and lifetime treatment per patient >\$1M

Limited Treatment Options

- There is no cure for Type 1 diabetes
- Human islet transplants are severely limited by supply of human islet donors, and require patients to be on life long dangerous immunosuppression
 - From 1990 – 2004, 740 patients with Type 1 diabetes received human islet transplants at 43 sites around the world
- Stem cell research is still early, several years from the clinic

Type 1 Diabetes: Market and Economic Burden

Diabetes Market and the Economic Burden

- Total cost of diagnosed diabetes in US in 2007 was \$174 billion, half of global expenditure
- More than 220 million people world wide have diabetes
- About 10% of diabetics - 22 million patients - are Type 1
 - US: 3 million, Australia: 100,000, NZ:15,000
 - New cases every year: Australia 1,800 and US 30,000
- About 17% of Type 1 diabetics have unstable diabetes
- Cost of human islet transplant is about \$250K per patient, plus cost of immunosuppressant drugs, \$30-\$40K per patient per year
- Transplants receive reimbursement support around the world

DIABECCELL[®] Opportunity

- NHMRC approves use of animal tissue – December 2009
 - JDRF International and opinion leaders support LCT program
 - Addresses management of life threatening medical condition safely, at reasonable cost , without relying on human donors or immunosuppression

The DIABECCELL[®] Advantage

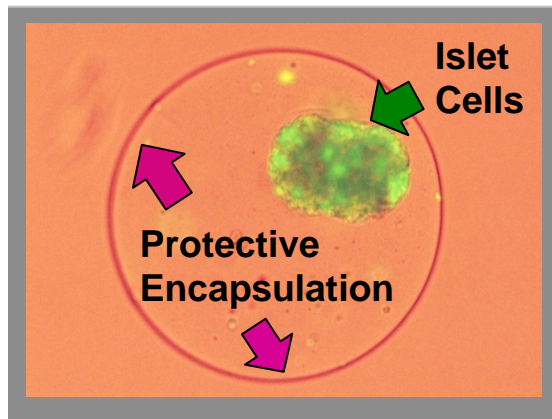
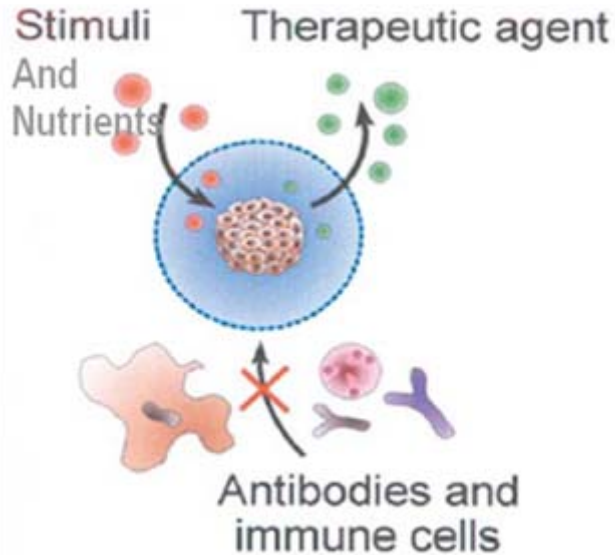
DIABECCELL[®] vs. Human Islet Implants

	DIABECCELL[®]	Human Islets*
Donor availability	Unlimited	Limited
Donor cell infectious screening	Extensive and continuous	Must be done within days
Immunosuppression	Not required	Required
Surgical procedure	Simple laparoscopy	Extensive
Patient cost for islet replacement procedure	Less	More

* Edmonton protocol

DIABECELL[®]: LCT's Lead Product

Islet Cell Implant Without Immunosuppression



- LCT owns unique pathogen-free pigs derived from sub-Antarctica
- Porcine cells isolated and coated in patented alginate-based gel to form micro-capsules
- Micro-capsules injected into abdomen using a laparoscope
- Engineered structure of micro-capsules enables nutrients to reach cells but prevents immune rejection
- Immunosuppressants **not** required
- Cells function naturally in body

LCT's Bio-certified Pig Supply

A Unique High Value Asset

- Source herd from Auckland Islands isolated > 200 years - no xeno-relevant viruses, parasites or bacteria, pigs do not secrete PERV
- Removed under quarantine by LCT; concession from NZ government for remaining pigs
- LCT owns and breeds its closed herds in two dpf facilities in NZ; 7 years of health and monitoring records, monitored regularly
- LCT pigs are biocertified according to US FDA guidelines 2003 for use in human therapeutics
- Study underway to assess value of medical grade porcine biomaterials from LCT pigs

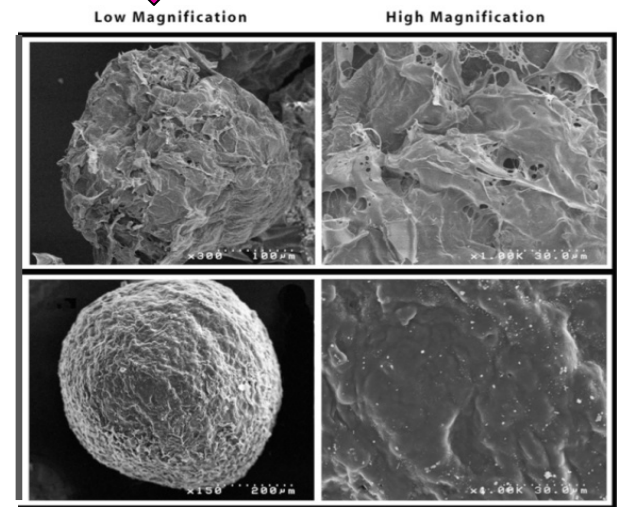


LCT's Enabling Delivery Technology

Protecting Living Cells in Microsphere Capsules

- Avoids immune rejection without immunosuppressive drugs
- Long term durability
- Applicable for other cells (e.g. stem cells)
- LCT manufactures ultrapure alginate
- Patent filed and potential for licensing
- Centocor R&D Inc (J&J) research collaboration with option to license LCT technology in a specified field

Other alginate capsule [90 days]



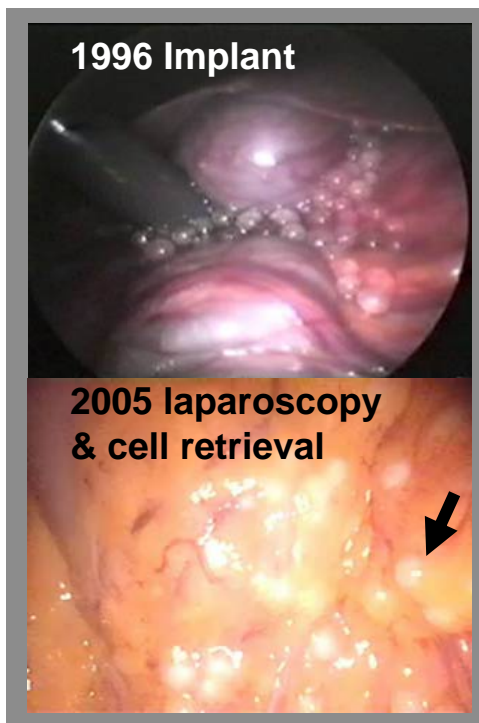
LCT capsule [215 days]

DIABECELL® Clinical Data

Safety and Proof of Principle for Efficacy in Humans

Pilot study 1996 -2005

Auckland, New Zealand



10 yr cell survival and function

Published in Xenotransplantation 2007

Phase I/IIa 2007 – 2010

Sklifasovsky Institute, Moscow, Russia

Subjects

8 adult Type 1 diabetes patients
Insulin dependent > 5 years

Dose

5,000 – 10,000 islet equivalents/kg
Up to 3 repeat implants

Safety

- No significant adverse events to date

Preliminary Efficacy

- Improved blood glucose control with reduced HbA1c
- Reduced daily dose of insulin injections
- Two patients off insulin up to 32 weeks
- Intact capsules retrieved after 6 months
- Pig insulin detected in patient blood

DIABECCELL® Phase IIb Trial

Auckland, New Zealand

Subjects and Dose

8 adults with unstable Type 1 diabetes

- 4 received implants 10,000 islet equivalents/kg (12 – 24 week follow up)
- 4 received 15,000 islet equivalents/kg (4th patient treated in July)

Data Safety Monitoring Board in March 2010

Approval to proceed to higher dose

Preliminary Report (July 2010):

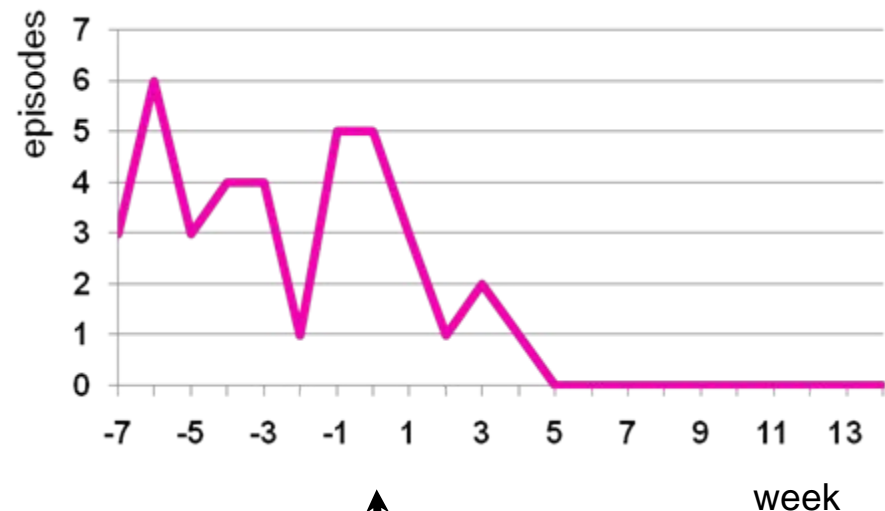
→ Safety

- Safety profile confirmed with no product-related significant adverse events

Efficacy (first 4 patients given 10,000 IEQ/kg)

- Improved blood glucose control by insulin dose reduction
- All 4 patients showed reduction or elimination of episodes of clinically significant hypoglycaemia

By 12 weeks, in three patients with hypoglycaemic unawareness, the number of hypoglycaemic unawareness episodes was reduced by 90% from 19 events down to just 2.



DIABECCELL® implant, Patient #1

Commercial Goals for DIABECCELL®

DIABECCELL® product to normalize lives of diabetes families

- Eliminate life threatening hypoglycemia
- Restore blood glucose control in unstable diabetes
- Insulin independence or reduced insulin dose

Commercial pathway and model

- Parallel pivotal clinical trials in multiple markets
- LCT as supplier of porcine tissue and encapsulated product
- Strategic licensing and alliances for international markets

High value product

- Treating 1000 patients will deliver an estimated EBITDA of > A\$150 million
- Significant revenue from small (1%) market penetration



DIABECCELL®
Cell Implant Product

DIABECCELL® Development Milestones

2010

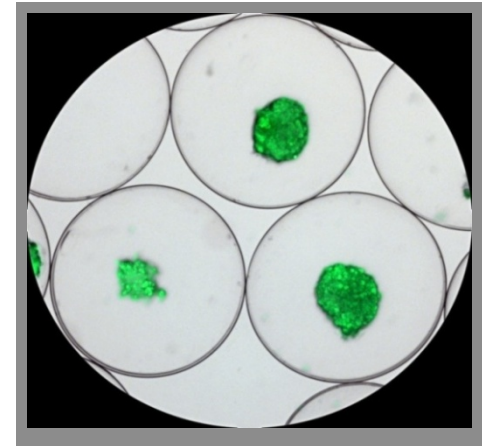
- Higher dose Phase IIb trial NZ, dose seeking trials continue
- Q4 Report Phase II – 8 patients from NZ trial
- Q4 Target product profile confirmed

2011

- Dose seeking trials continue (Australia, NZ)
- Approval for pivotal trial, NZ
- DIABECCELL® approval Russia
- Strategic alliance DIABECCELL® (12 mth data NZ)

2012

- S1 manufacturing facility scale up start
- Completion and reporting of pivotal data



DIABECCELL® Commercialisation Milestones

2013

- Revenue from Russia
- S2 manufacturing facility scale up start
- LCT reaches profitability

2014

- DIABECCELL® approval and revenue – NZ, Australia, US, EU, tba
- Revenue from NZ, Australia, tba
- S1 complete, S2 interim capacity
- DIABECCELL® annual revenue capacity \$57 million

2015


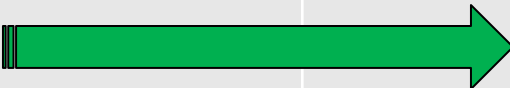
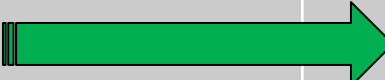
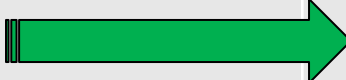
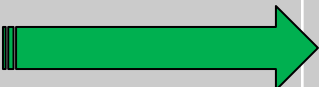
- S1 and S2 at capacity
- DIABECCELL® annual revenue capacity \$81 million

NOTE: These milestones exclude revenue opportunities from NTCELL collaborations, IMMUPEL out-licensing and other porcine biomaterials



LCT's Therapeutic Pipeline

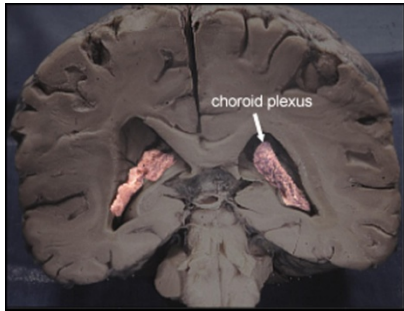
Added Value through Partnering

PRODUCT	INDICATION	RESEARCH/ DISCOVERY	PRECLINICAL	PHASE I / II TRIALS	PIVOTAL TRIALS	
DIABECCELL®	Diabetes – 1	 <i>NZ, Russia, other jurisdictions</i>				
NTCELL	Parkinson's					
NTCELL	Stroke					
NTCELL	Hearing Loss	 <i>Bionic Ear Institute, Melbourne Australia</i>				
NTCELL	Huntington's					

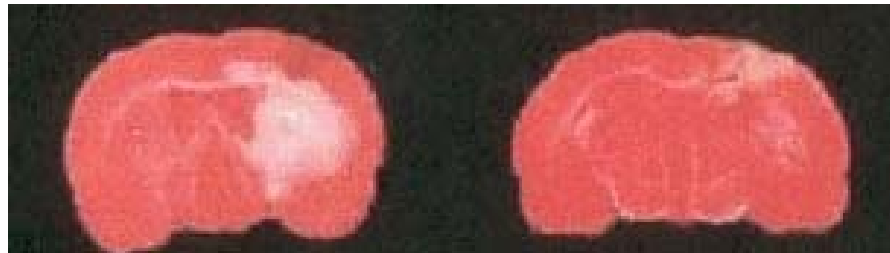
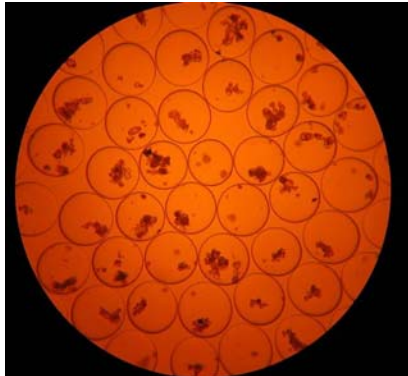
 LCT is accelerating the development of its programs by partnering

LCT's NTCELL: Neurodegenerative Disease

Alginate encapsulated porcine choroid plexus cells



- Choroid plexus cells naturally produce brain hormones and growth factors that protect brain and nerve cells from degeneration or injury and enhance repair
- Encapsulated with IMMUEPEL, high yield cells from LCT pigs
- NTCELL has been implanted in animal models of Parkinson's disease, Huntington's disease, Stroke and Hearing Loss



Untreated

Treated

Rat stroke model; white areas indicate damaged brain tissue

Multiple Out-licensing Opportunities

IMMUPEL Microsphere Capsules

- Proprietary encapsulation technology delivers living cell therapies without immunosuppression
- Broad applications; Several Cell Types Encapsulated
 - Islet, Choroid plexus, Schwann cells, Stem cells and stem cell derived clusters, Liver cells, can be applied to other cell types
- Amenable to Various Cell Sizes
 - Currently deliver about mean 70 kDa but can do from 20-200 kDa
 - Cells generally about 10 μm , prefer clusters of 50-100 μm
- Processed by LCT in cGMP facility for licencees
 - J&J collaboration; specific cell type, specific field of use

LCT Intellectual Property

Patents - 32 granted, 49 pending; 15 patent families

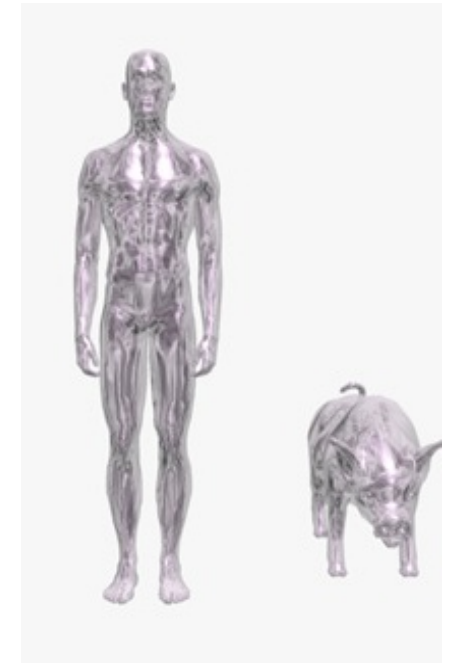
- Use of cells from neonatal piglets for the treatment of diabetes
- Methods of preparing neonatal islets
- Use and method of preparing choroid plexus cells for the treatment of neurological diseases
- Method of selection of pigs suitable as source of tissue for human therapeutics
- Alginate encapsulation delivery technology

Operational experience and know-how

- Breeding and screening of designated pathogen free pigs
- Expertise in alginate selection, composition and processing
- Manufacture of encapsulated live cells
- Fully integrated operations

LCT Value Proposition

- **Consistent positive Phase II trial data**
Technical risk mitigated
- **Significant revenue potential on horizon**
Estimated registration of DIABECCELL[®] within 3 years
- **Attractive investment returns**
\$1 billion business potential
- **Global product reach**
Strategic alliances with global pharma and biotech leaders
Scalable product manufacture and supply
- **Exclusive protected high value assets**
Unique bio-certified pigs
Fully integrated proprietary manufacturing process
Delivery technology eliminates need for immunosuppression
- **Broad technology platform delivers multiple opportunities**
NTCELL applicable to multiple neurodegenerative diseases
DIABECCELL[®] potential beyond specific indications for type 1 diabetes
IMMUPEL encapsulation technology can deliver other cell-based therapies
Biocertified porcine biomaterials for medical products



LCT Board of Directors

- **Dr David Brookes, Chairman**, Adelaide, SA Australia
Director of Atcor Medical Holdings Ltd; Chairman Innovance Ltd (NSX); medical practitioner
- **Mr Simon O'Loughlin**, Adelaide, SA, Australia
Chairman of Bondi Mining Ltd; Director of Aura Energy Ltd, Petratherm Ltd, Chesser Resources Ltd, WCP Ltd and Probiomics Ltd
- **Mr Laurie Hunter**, San Francisco, CA, USA
Director of Trident Resources, Madagascar Oil and Direct Petroleum Exploration Inc.
- **Mr Robert Finder**, Adelaide, SA, Australia
Chairman of LBT Innovations; Director of National Pharmacies Australia; formerly MD & CEO Gropep
- **Mr David McAuliffe**, Perth, WA, Australia
Established biotechnology companies in Europe and Australia; currently Director of NeuroDiscovery Ltd and Western Australian ChemCentre
- **Dr Paul Tan**, Auckland, NZ
Chief Executive Officer and COO of Living Cell Technologies Ltd, member NZBio National Advisory Council
- **Emeritus Professor Robert Elliott**, Auckland, NZ
Co-founder and Medical Director of Living Cell Technologies Ltd; Director NZ Childhealth Foundation